



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*

THE MAGAZINE OF FOOD, FARM, AND RESOURCE ISSUES

---

# CHOICES

Third Quarter 1998



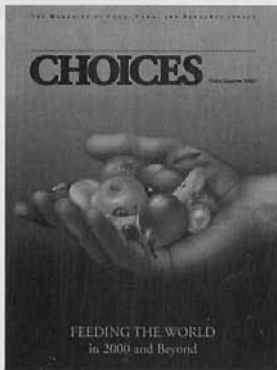
FEEDING THE WORLD  
in 2000 and Beyond

## Findings

What agricultural and resource economists are finding about food, farm, and resource issues.

- **MEATPACKING CONCENTRATION.** Increasing concentration in the meatpacking industry appears to be caused more by economies of plant scale than by anticompetitive behavior on the part of large meatpacking firms—say Anderson, Murray, Teague, and Lindrooth.
- **POLITICS AND AGRICULTURAL POLICY.** Pro- and anti-sugar interests have been able to “buy” favorable congressional votes through their PAC contributions—say Brooks, Cameron, and Carter.
- **OPENING AGRICULTURAL TRADE.** Had the Canadian economy been more integrated into the world economy, relative agricultural prices would have been, on average, 8 percent higher during the 1960–92 period—say Lachaal and Womack.
- **SWINE MANURE MANAGEMENT.** While manure management is important, the most profitable storage and application systems vary from situation to situation, and other production considerations generally drive the profitability of hog unit size—say Fleming, Babcock, and Wang.
- **MUNICIPAL SOLID WASTE.** Rural municipalities commonly privatize solid waste collection and disposal in rural areas of Illinois and Wisconsin, and most studies of U.S. cities show that privatization of solid waste services reduces costs—says Deller.
- **GROUNDWATER QUALITY AND FARM INCOME.** Practices and technologies which reduce leaching of agricultural chemicals into the groundwater tend to reduce farm incomes, although some opportunities exist for win-win outcomes, and at lower levels of reduced chemical contamination revenue losses may be quite small—says Lee.
- **CANADIAN WHEAT BOARD.** The Canadian Wheat Board exercises monopoly power to raise the cost of marketing services to farmers, which presumably lowers farm incomes—say Carter, Loyns, and Berwald.
- **INSECTICIDES AND APPLICATOR SAFETY.** U.S. apple growers choose insecticide products and application rates based primarily on efficacy and user safety attributes—say Hubbell and Carlson.

\*Findings are taken from recently or soon-to-be published research in the *American Journal of Agricultural Economics*, *Journal of Agricultural and Resource Economics*, *Review of Agricultural Economics*, *Journal of Agricultural and Applied Economics*, *Agricultural and Resource Economics Review*, *Land Economics*, *Journal of Environmental Economics and Management*, *Agribusiness—An International Journal*, and other journals which publish the research findings of agricultural and resource economists. Abbreviated citations are found on page 40.



ON OUR COVER—Precious food. The fruit nurtured and then offered by human hands. Abundant for some, but not all. And into the future, will we be able to meet our needs? Our wants? Inside, authors discuss the prospects for the years ahead.

## *The Federal Reserve: A Friend of Agriculture*



*Jean Kinsey is professor in the Applied Economics Department and director of The Retail Food Industry Center at the University of Minnesota. She served on the Board of Directors of the Federal Reserve Bank of Minneapolis from 1991 to 1997 and was 1996-97 chair.*

Every other Thursday morning each of the twelve presidents and members of the Board of Directors of the Federal Reserve Banks have a meeting in their respective locations. Security is tight: participants use secured phone lines and wear identification badges. They review economic conditions and vote on whether to change the discount rate—the interest rate each Federal Reserve Bank charges depository institutions who borrow from their discount window to cover deficits at the end of the day. Meeting participants are sworn to secrecy since a change in the discount rate usually triggers a change in all interest rates. A leak about that possibility could set off wide swings in currency and stock markets and counter monetary policy.

Decisions are relayed to the Board of Governors in Washington, D.C. They could declare a change in the discount rate if at least one bank votes to do so. In practice, the discount rate or the federal funds rate change only after being voted upon by the Federal Open Market Committee (FOMC) which meets eight times a year. The FOMC also affects interest rates through their instructions to adjust banks' reserve requirements.

Smaller banks in agricultural areas are the largest users of the discount window since their need for loanable funds on a seasonal basis often exceeds their supply. The discount window helps ensure that farmers receive loans in time to plant while it enhances the safety and soundness of rural banks.

How do FOMC members gain wisdom and foresight for making decisions affecting interest rates? Besides being well-educated and experienced people, they have large research staffs. In addition, a network of advisory boards made up of business people, consumers, and labor and citizen representatives advise FOMC members. As a director of the Minneapolis Federal Reserve Bank, I regularly called fifteen to twenty business executives for real-time information about prices, supplies, wages, jobs, crop conditions, and the market for cattle. Cumulatively, this information indicates the direction of economic activity long before it is revealed by official statistics. This foresight is invaluable and contributes mightily to the right decision being made at the right time for interest rate adjustments.

So much for monetary policy. The Federal Reserve System (FED) also ensures the integrity of banks and enables commerce to take place. As part of their duty to supervise and regulate banks and bank holding companies,

the FED enforces the Community Reinvestment Act. This act promotes investment in rural housing, including that on Indian reservations.

The FED is the bank for the U.S. Treasury. As such, it facilitates trading in international currencies which is important to agricultural exports. Recently, they shored up the Japanese yen in order to slow the rise in the dollar and encourage U.S. exports. All payments between the U.S. government and citizens flow through the treasury's account at the FED. Social security checks, savings bonds, food stamps, coins, and currency all move through the FED. Their automated clearing house handles direct deposits of payroll checks and mortgage payments. They literally make it possible for commerce to function. And, yes, their computers have redundant capacity. One time when water damaged a main computer at the Minneapolis Bank, all operations were transferred to a "redundant" site within a few hours. As far as I know, no one missed a credit card or wire transaction. And, yes, the FED computers are ready for the year 2000!

It is difficult to identify which of the FED's many activities benefits agriculture the most. Perhaps, it is the combination of actions that stabilize inflation and instill confidence in the economy. As Larry Meyers (FED governor) put it, "When it comes to price stability, the buck, literally stops at the central bank." Stable, low inflation encourages investments in both the physical and human capital that sustain agriculture, business, households, and culture. Ultimately, it provides an environment where standards of living will rise.

## Table of Contents



### Features

- 4** Recent developments and emerging issues in world food security  
*by Per Pinstrup-Andersen and Rajul Pandya-Lorch*
- 8** Anticipating a tighter global food supply-demand balance in the twenty-first century  
*by Luther Tweeten*
- 13** Lysine  
A case study in international price-fixing  
*by John M. Connor*

- 20** The California Irrigation Management Information System (CIMIS)  
Intended and unanticipated impacts of public investment  
*by Daniel R. Cohen-Vogel, Daniel E. Osgood, Douglas D. Parker, and David Zilberman*
- 26** The new Safe Drinking Water Act  
Implications for agriculture  
*by Mark E. Smith and Marc O. Ribaldo*
- 31** Have Americans accepted food biotechnology?  
*by Paul B. Thompson*

## Gallery



Pinstrup-Andersen Pandya-Lorch Tweeten



Connor Smith Ribaldo



Thompson Cohen-Vogel Osgood



Parker Zilberman

**Per Pinstrup-Andersen**, a native of Denmark, joined the International Food Policy Research Institute (IFPRI) as its director general in 1992. Prior to this, he was director of the Cornell Food and Nutrition Policy Program, professor of food economics at Cornell University, and a member of the Technical Advisory Committee to the Consultative Group on International Agricultural Research. Before taking up his teaching and research positions at Cornell, Pinstrup-Andersen served as a research fellow and director of the Food Consumption and Nutrition Policy Program at IFPRI, was an agricultural economist at the International Center for Tropical Agriculture (CIAT) in Colombia, and served as director of the Agro-Economic Division at the International Fertilizer Development Center (IFDC) in the United States.

**Rajul Pandya-Lorch**, a citizen of Kenya of Indian origin, is coordinator of IFPRI's 2020 Vision for Food, Agriculture, and the Environment Initiative. Before taking her current position, she was special assistant to IFPRI's director general. Pandya-Lorch joined IFPRI in 1987. Her recent research has focused on trends in and prospects for global food security and on policies to alleviate and prevent food insecurity, poverty, and environmental degradation. The Foundation for Environmental Conservation awarded Pandya-Lorch and Pinstrup-Andersen the 1996 Best Paper Prize for their article in the journal *Environmental Conservation*.

**Luther Tweeten** is Anderson Professor of Agricultural Marketing, Policy, and Trade at Ohio State University. Growing up on a diversified farm in Iowa, Tweeten arose at 6 a.m. each morning to milk cows before catching the school bus. The habit stuck, and he has since been milking data at early hours. As a consequence,

he is author or co-author of seven books and over 500 journal articles and published papers. He is a former president and a current Fellow of the American Agricultural Economics Association. Recent awards include the Charles Black Award from the Council on Agricultural Science and Technology, the Distinguished Alumni Award from Iowa State University's College of Agriculture, and the Distinguished Scholar Award from Ohio State University.

**John M. Connor** is a specialist in the domestic and international competitiveness of food marketing systems. Since 1978, he and co-authors have published several pieces of research that have attempted to identify the monetary costs that monopoly and oligopoly behavior in the U.S. food manufacturing industries have imposed on consumers. These estimates, ranging from \$12 billion to \$20 billion per year, inevitably provoke strong responses from various interest groups. Connor is professor of agricultural economics at Purdue University.

**Mark E. Smith** is an agricultural economist with the Resource Economics Division of the U.S. Department of Agriculture's Economic Research Service. His current research includes issues associated with nonpoint source water pollution prevention and treatment, especially with respect to drinking water. Other work has examined the effects of U.S. conservation programs on world grain trade, and economic aspects of U.S. and foreign agricultural trade and aid policies and programs. He has recently been appointed to the Benefit-Cost Working Group of the National Drinking Water Advisory Council, which provides input to the Environmental Protection Agency.

**Marc Ribaldo** joined the Natural Resource

## Profile

- 34 George F. Warren: A pioneer of our profession**  
by *B.F. Stanton*

## In Short

- 38 rBST labeling and notification: Lessons from Vermont**  
by *Jane Kolodinsky, Qingbin Wang, and David Conner*

- 41 Jobs for Extension economists: A growth area?**  
by *Jim Hanson*

- 42 No plane, big gain? Airport noise and residential property values in the Reno-Sparks area**  
by *Hilary Kaufman, Molly Espey, and Jeffrey Englin*

## Departments

### IFC Findings

- 1 Guest editorial**  
The Federal Reserve: A friend of agriculture  
by *Jean Kinsey*

- 2 Gallery**  
About the authors

- 22 Graphically speaking**  
The importance of exports to U.S. agriculture  
by *Michael J. Dwyer*

### 44 Letters

Economics Division of ERS in 1983. His first major project was to estimate the offsite benefits of soil conservation programs. This work led to a 1988 research report, still in demand today, on the water quality benefits from the Conservation Reserve Program. Since then, Ribaudo has become ERS's resident expert on agriculture/water quality issues. Some areas of study include improved water quality benefits to recreational fishing, commodity program influences on chemical use, and state water quality laws' effects on agriculture. Ribaudo also participates on a number of interagency committees, including current work with Vice President Gore's Clean Water Action Plan, and the USDA Working Group on Water Quality.

**Paul B. Thompson** is a philosophy professor working primarily on issues in agriculture and the food system. He held a joint position in philosophy and agricultural economics at Texas A&M University, where he taught an undergraduate course on agricultural ethics for sixteen years. In September 1997 he assumed the Joyce and Edward E. Brewer Chair of Applied Ethics at Purdue University. Thompson published *Food Biotechnology in Ethical Perspective* in 1997, which includes an in-depth treatment of the topic he discusses in this issue of *Choices*. His most recent book, *Agricultural Ethics: Research, Teaching and Public Policy*, collects papers on animal welfare, rBST, agrarianism and sustainable agriculture, as well as on the place of ethics in rural education.

**Daniel R. Cohen-Vogel** is a visiting postdoctoral researcher in the Department of Agricultural and Resource Economics at the University of California, Berkeley, and currently a research associate at the Vanderbilt Institute of Public Policy Studies in Nashville, Tennes-

see. His research interests include technology adoption, pesticide policies, and precision agriculture. Cohen has also spent considerable time in the Middle East, where he recently organized a conference to address mutual concerns over water and food security.

**Daniel E. Osgood** is a PhD student in the Department of Agricultural and Resource Economics at the University of California at Berkeley. He is interested in the role of public information programs as an additional tool in an integrated resource management package. He works on providing more practical management products through the application of maximum entropy statistical techniques to geographic information systems data in order to estimate efficient levels for incentives and fees.

**Douglas D. Parker** is assistant professor in the Department of Agricultural and Resource Economics at the University of Maryland. His recent research and extension programs have focused on the use of water markets to allocate agricultural water supplies, the design of pricing mechanisms to encourage efficient agricultural water use, and promotion of education and cooperation among competing groups over agricultural and wetlands preservation. He is currently executive director of the International Water and Resource Economics Consortium.

**David Zilberman** is professor and chair of the Department of Agricultural and Resource Economics and director of the Center of Sustainable Resource Development at the University of California, Berkeley. Zilberman's recent work focuses on the economics of technological change and risk, and environmental and resource problems in agriculture, particularly water and pesticide problems.

## Publisher

The American Agricultural Economics Association  
415 S. Duff Ave., Suite C  
Ames, IA 50010-6600

## Editor

Harry W. Ayer, PhD  
Department of Agricultural and Resource Economics  
University of Arizona  
Tucson, AZ 85721

## Managing editor

Sandra Clarke  
415 S. Duff Ave. Ste. C  
Ames, IA 50010-6600

## Art director

Valerie Dittmer King  
King Graphics  
Grand Junction, Iowa

## Cover

Illustration © Andre Vial/SIS

## Printer

Pendell Printing, Midland, Michigan

## Advisory board

|                  |                    |
|------------------|--------------------|
| Andrew Barkley   | Bengt Hyberg       |
| David Barkley    | Cathy Jabara       |
| John Bergstrom   | Craig Jagger       |
| Gary Brester     | Jean Kinsey        |
| Jean Buzby       | David Kraybill     |
| Joyce Cacho      | Betsy Kuhn         |
| Barbara Claffey  | Donald McDowell    |
| Mark Drabenstott | Gregory Poe        |
| Jill Findeis     | Scott Rozelle      |
| George Frisvold  | David Schweikhardt |
| Bert Greenwalt   | Judith Stallmann   |
| Ray Huffaker     | Wally Thurman      |

CHOICES (ISSN 0886-5558) is published quarterly by the American Agricultural Economics Association for people who want to be informed about food, farm, and resource issues—and the policies that affect them. Views expressed herein are those of the authors, and not necessarily those of CHOICES or its publisher. Postage paid at Ames, IA, and additional mailing offices. All rights reserved. Quotation with credit is permitted. © 1998 Vol. 13, No. 3, American Agricultural Economics Association. Subscription rates for U.S.: individuals—\$20.00 per year, libraries—\$32.50 per year (four editions). In Canada add \$10 per year. Outside U.S. and Canada add \$20. Send subscription correspondence to CHOICES, AAEA Business Office, 415 South Duff Ave., Suite C, Ames, IA 50010-6600. Telephone (515)233-3234, FAX (515)233-3101. Writers' guidelines are available at our Web site: [www.aaea.org/choices/](http://www.aaea.org/choices/). Send four copies of each manuscript to the editor, Harry W. Ayer, Department of Agricultural and Resource Economics, University of Arizona, Tucson, AZ 85721, telephone (520)621-6257 and FAX (520)621-6250.